



UNITED STATES PATENT AND TRADEMARK OFFICE

7el
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,877	10/26/2001	Michael S. Foster	030048029US	8346
25096	7590	02/14/2006	EXAMINER	
PERKINS COIE LLP			CHO, HONG SOL	
PATENT-SEA				
P.O. BOX 1247			ART UNIT	PAPER NUMBER
SEATTLE, WA 98111-1247			2662	

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/039,877	FOSTER ET AL.
	Examiner Hong Cho	Art Unit 2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 December 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-46 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12012005.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 12/1/2005. Claims 1-46 are pending in the instant application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(b) that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
3. Claims 1, 2, 11-15, 21-24, 26, 33-38 and 44-46 are rejected under 35 U.S.C. 102(b) as being anticipated by Olnowich et al (U.S 5680402), hereinafter referred to as Olnowich.

Re claims 1, 2, and 11, Olnowich discloses a switch, interconnect fabric module (*dual priority switch*) for establishing a connection through the switch (abstract; figure 1). Olnowich also discloses receiving data at a source port of the switch, the data indicating that the switch is to be part of a new connection to be established through the switch (*sending a correction signal which indicates that a port of a switch is part of a new connection*, column 21, lines 44-54). Olnowich discloses when an existing connection conflicts with the new connection and the received data indicates to preempt (*when the port is already part of a current connection that is being established, allowing a priority*

determination to be made, column 21, lines 53-56), and when the current connection has a higher priority than the conflicting connection, keeping the current connection (*holding the current connection at the switch, while the priority is determined, so that when the current connection has a higher priority, this current connection is kept*, column 20 lines 10-12). Olnowich discloses that when the current connection does not have a higher priority than the conflicting connection, terminating the existing connection before establishing part of the conflicting connection through the port (*the higher priority connection is connected through the port and if the conflicting connection has higher priority, the connection established and current connection is terminated*, column 21, lines 21-39; column 23, lines 56-67).

Re claim 12, Olnowich discloses receiving path connection request at any of the network input ports (*the source port is not a port used by the existing connection*, column 25, lines 7-12).

Re claim 13, Olnowich discloses establishing a point-to-point communication path (the existing connection is completely built, column 25, lines 50-52).

Re claims 14, 15, and 21, Olnowich discloses a switch (*routing device, interconnect fabric module*) for establishing a connection through the switch (abstract; figure 1). Olnowich also discloses receiving a communication indicating that the switch is to be part of a new connection to be established through the switch (*sending a correction signal which indicates that a port of a switch is part of a new connection*, column 21, lines 44-54). Olnowich discloses an existing connection conflicting with the new connection and (*when the port is already part of a current connection that is being*

established, column 21, lines 53-56), and when the current connection has a higher priority than the conflicting connection, maintaining the existing connection (holding the current connection at the switch, while the priority is determined, so that when the current connection has a higher priority, this current connection is kept, column 20 lines 10-12). Olnowich discloses that when the current connection does not have a higher priority than the conflicting connection and the received data indicates to preemp, then terminate the existing connection before establishing part of the conflicting connection through the port (the higher priority connection is connected through the port and if the conflicting connection has higher priority, the connection established and current connection is terminated, column 21, lines 21-39; column 23, lines 56-67).

Re claim 22, Olnowich discloses receiving path connection request at any of the network input ports (*the source port is not a port used by the existing connection, column 25, lines 7-12*).

Re claim 23, Olnowich discloses establishing a point-to-point communication path (*the existing connection is completely built, column 25, lines 50-52*).

Re claims 24, 26, and 33, Olnowich discloses a switch (*routing device, interconnect fabric module*) for establishing a connection through the switch (abstract; figure 1). Olnowich also discloses receiving data at a source port of the switch, the data indicating that the switch is to be part of a new connection to be established through the switch (*sending a correction signal which indicates that a port of a switch is part of a new connection, column 21, lines 44-54*). Olnowich discloses when an existing connection conflicts with the new connection and the received data indicates to preemp

(when the port is already part of a current connection that is being established, allowing a priority determination to be made, column 21, lines 53-56), and when the current connection has a higher priority than the conflicting connection, keeping the current connection (holding the current connection at the switch, while the priority is determined, so that when the current connection has a higher priority, this current connection is kept, column 20, lines 10-12). Olnowich discloses that when the current connection does not have a higher priority than the conflicting connection, terminating the existing connection before establishing part of the conflicting connection through the port (the higher priority connection is connected through the port and if the conflicting connection has higher priority, the connection established and current connection is terminated, column 21, lines 21-39; column 23, lines 56-67).

Re claim 34, Olnowich discloses receiving path connection request at any of the network input ports (*the source port is not a port used by the existing connection, column 25, lines 7-12*).

Re claim 35, Olnowich discloses establishing a point-to-point communication path (*the existing connection is completely built, column 25, lines 50-52*).

Re claims 36-38 and 44, Olnowich discloses a switch (*routing device, interconnect fabric module*) for establishing a connection through the switch (abstract; figure 1). Olnowich also discloses receiving a communication indicating that the switch is to be part of a new connection to be established through the switch (*sending a correction signal which indicates that a port of a switch is part of a new connection, column 21, lines 44-54*). Olnowich discloses an existing connection conflicting with the

new connection and (*when the port is already part of a current connection that is being established*, column 21, lines 53-56), and when the current connection has a higher priority than the conflicting connection, maintaining the existing connection (*holding the current connection at the switch, while the priority is determined, so that when the current connection has a higher priority, this current connection is kept*, column 20 lines 10-12). Olnowich discloses that when the current connection does not have a higher priority than the conflicting connection and the received data indicates to preemp, then terminate the existing connection before establishing part of the conflicting connection through the port (*the higher priority connection is connected through the port and if the conflicting connection has higher priority, the connection established and current connection is terminated*, column 21, lines 21-39; column 23, lines 56-67).

Re claim 45, Olnowich discloses receiving path connection request at any of the network input ports (*the source port is not a port used by the existing connection*, column 25, lines 7-12).

Re claim 46, Olnowich discloses establishing a point-to-point communication path (*the existing connection is completely built*, column 25, lines 50-52).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olnowich in view of Srinivasan et al (U.S 6304549), hereinafter referred to as Srinivasan.

Re claims 3 and 25, Olnowich discloses all of the limitations of the base claim, but fails to disclose routing the existing connection through a different port of the switch. Srinivasan discloses attempting a different route when a connection is unsuccessful (column 11, lines 29-39). It would have been obvious to one of ordinary skill in the art at the time of the inventions, when presented with the work of Srinivasan, to apply the method of attempting to find a different route for connections, as suggested by Srinivasan, to Olnowich so that the data would be transferred without having to wait until the data of the conflicting connection has finished being transferred.

Claims 4, 5, 16, 17, 27, 28, 39 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olnowich in view of Yasuda et al. (U.S 5892923), hereinafter referred to as Yasuda.

Re claims 4, 16, 27, and 39, Olnowich discloses all of the limitations of the base claim, but fails to disclose that the priority of a connection is based on priority of data to be transmitted through the connection. Yasuda discloses controlling routing connections using message priority (column 4, lines 8-17). Using message priority to route data has the advantage of making sure that high priority data and communications, for example, time sensitive data, such as voice or video data, is routed with a minimum of interruptions. It would have been obvious to one of ordinary skill in the art at the time of

the invention, when presented with the work of Yasuda, to apply the use of data and communication priority, as suggested by Yasuda et al., to the deadlock resolution method and system of Olnowich, with the motivation being to make sure that high priority data and communications, for example, time sensitive data, such as voice or video data, is routed with a minimum of interruptions due to deadlock conditions.

Re claims 5, 17, 28, and 40, Olnowich discloses that the unique identifier is an identifier of the switch device that sent the data as a priority tiebreaker (*using the lowest numbered input port, which is an identifier of the switch and a device that sent the data, as a priority tiebreaker when more then one message of the same priority is waiting for the same output pod to become available*, column 10, lines 17-29).

Claims 6-8, 18, 29, 30, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olnowich in view of Ogimoto et al. (U.S. 6032205), hereinafter referred to as Ogimoto.

Re claims 6-8, 18, 29, 30, and 41, Olnowich discloses all of the limitations of the base claim, but fails to disclose that the data is a start-of-connection frame indicating the priority with a preempt flag being set. Ogimoto discloses data being processed with a priority controller through header decode circuits in a switching environment based on leading words in the messages (column 8, lines 7-20; figure 2, items 109, 111, and 113). The leading words of Ogimoto initiate a transmission permit signal, which can be interpreted to be a start of connection frame. This method has the advantage of encoding routing and priority in the data so that connection paths can be requested and priorities

can be determined. It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Ogimoto to apply the use of leading works, as suggested by Ogimoto to the deadlock resolution method and system of Olnowich with the motivation being to encode routing and priority in the data so that connection paths would be requested and priorities would be determined.

Claims 9, 10, 19, 20, 31, 32, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olnowich in view of Latif et al. (U.S. 6400730), hereinafter referred to as Latif.

Re claims 9, 10, 19, 20, 31, 32, 42, and 43, Olnowich discloses all of the limitations of the base claim, but fails to disclose switches being Fibre Channel and InfiniBand compatible. Latif discloses a switch comprising any combination of Fibre Channel and InfiniBand ports (column 4, lines 13-39). Making the switch Fibre Channel and InfiniBand compatible has the advantage of allowing the switch to process data using the Fibre Channel standard and the InfiniBand standard. It would have been obvious for one of ordinary skill in that art at the time of the invention, when presented with the work of Latif to apply a Fibre Channel and InfiniBand compatible switch, as suggested by Latif to Olnowich with the motivation being to allow the switching system to process data using the Fibre Channel standard and the InfiniBand standard.

Response to Arguments

6. Applicant's arguments filed on 12/1/2005 have been fully considered but they are not persuasive.

Rejection under 35 USC § 102

In response to applicant's argument that Olnowick fails to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a switch that receives data indicating a new connection through the switch but which is in conflict with an existing connection where the new and existing connections may have the same or different priorities) are not recited in the rejected claim(s). Independent claims 1, 14, 24, and 36 recites that a switch receives data indicating that the switch is to be part of a new connection.

On page 12 the applicant argues that Olnowick does not teach what is recited in claims 1, 14, 24, and 36 and therefore a prima facie case of anticipation has not been established. The Examiner respectfully disagrees. The Examiner believes that Olnowick teaches every element of claims as shown in the above claim rejections and therefore a prima facie case of anticipation has been established.

The Examiner concludes that the rejection of claims stands.

Rejection under 35 USC § 103

On page 13 the applicant argues that a prima facie case of obviousness has not been established. The Examiner respectfully disagrees. The Examiner believes that

Olnowick teaches every element of claims as shown in the above claim rejections and therefore a *prima facie* case of obviousness has been established.

The Examiner concludes that the rejection of claims stands.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hc
Hong Cho
Patent Examiner
2/8/2006


JOHN PEZZLO
PRIMARY EXAMINER